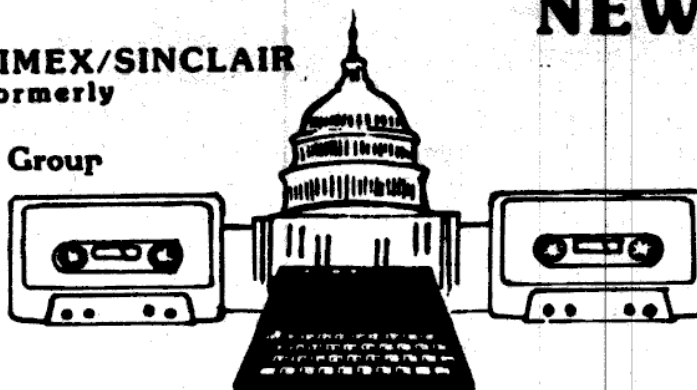


CATS

CAPITOL AREA TIMEX/SINCLAIR
USERS GROUP :Formerly
Prince George's
Timex/Sinclair User's Group



NEWSLETTER

Vol 1, No. 10
January, 1984

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LAST MONTH'S EDITORIAL WAS NO PREDICTION

OF THINGS TO COME!

HOWEVER!

TIMEX has announced the resignation of Dan Ross and the reorganization of the computer company. The only thing we know at this writing is that Mike Jacobi will take the helm. Lots of Good Luck to TIMEX in 1984. We look forward to some great things from Waterbury.

On the lighter side: JACK EWALD, Eastern Regional Manager for Timex, visited with us at the December meeting. He spoke of some of the plans for 1984 and delivery of new components. In particular the T32050 Telephone Modem.

It was announced that there would be more contact between TIMEX and the USER GROUPS. Timex wants to share its technical expertise with the users and will do so wherever possible. All we have asked for is the wherewithall to use the machine as it was intended.

To start off the NEW YEAR with a BANG, Jack is attempting to arrange for one or two of the Engineers to visit with us at the January 14th meeting. Here is your chance to get all those questions answered that have been bugging you. In order to do so please put your questions in writing and get them to the club mail box by no later than January 10. We also would like a full house. So please all mark your calendars for Saturday, Jan. 14th at 2 P.M. sharp. There will be special drawings for those that show before 1:30 P.M.

If you ordered SINC Magazine you should have received the January issue last week

and read the great review of the Word Processors. WORD SINC II which has been advertised for the past three months in this Newsletter came out NUMERO UNO. Get your order in at the special club price now as we can't hold the price any longer. It goes to \$20 January 15. Your postmark will count.

We are working with three or four Data Base Programs and will come out with a review in February. So far Tom Wood's ZX PRO/FILE is tops. We will try and arrange a Club Special Price for anyone who wants it. Let me know of your interest.

Jack Ewald was kind enough to donate Software for Door prizes. We will start with drawings at the January Meeting. Remember if you show before 1:30 P.M. you get a special drawing.

By the time you read this we hope the MODEM will be in the stores. It lists at \$119.95 but we think will sell for \$99.95. Call your favorite Timex Dealer and place your orders now. This helps them and you are guaranteed a MODEM early.

We will have a Special on 60 minute cassetts at the January meeting. This is a repeat of the tape at the November meeting.

There have been some neat programs for the T31000 and 1500 in FAMILY COMPUTING. See inside for a Program from the January 1984 issue. It is "NEW YEAR'S EVE".

Let me take this opportunity to wish you all a HEALTHY AND HAPPY NEW YEAR. It certainly has been a pleasure working with you all during 1983. Let's hope that 1984 will take us to bigger and better things.

JULES GESANG

This column was typed with WORD SINC II+

FROM THE EDITOR

Happy New Year! It looks like CATS is starting out on the right foot. As I write this, the copy that I've recieved is lying on the floor beside me. It looks like there are ever more contributors - with more to say. Keep it up! CATS Newsletter is looking pretty good these days. Several callers have commented on it. Amid all the continuing pleas for new material (we still need that), we should realize that we are one of the best Timex newsletters that are published. The broad support that has been generated has created a newsletter that reflects the wide areas of expertise of the members. Moral? **KEEP IT UP!**

I really can't say how much I appreciated the help I've gotten on this edition. We've been trying to speed things up to clear room for Christmas, and succeeded - but only because of the cooperation of a lot of people: see the list below. I attended two parties last night; a standard office party, with lots of folks I didn't know standing around, and the newsletter paste-up party. The refreshments were spartan (all the coffee or icewater you wanted), but the paste-up party was the one that I'll remember. We passed around some info, got some new ideas, and created most of what you're looking at right now. Two thoughts arise from this. First, there is a lot of room for other special interest groups to do the same thing - see Steve Johnson's note in this issue. Second, how about a pot-luck dinner for the club? I suggested having all the recipies printed out on a T/S 2040, but was hooted down. Let me know if you have a place we could use for such an affair.

***** DUES TIME

When you all become heads of major computer corporations, don't forget that you must have paid your dues. In this case, the tariff is quite reasonable: \$12.00, reduced to \$6.00 if you joined after July (as recorded in our archives). Either type of member will then be paid up through next December.

GOINGS AND COMINGS

A good West Coast newsletter, Z-West, is stopping as of January - the real reasons are unknown, but I believe that if they had the support we are enjoying, they would still be with us.

A new publication for Timex owners has come out - T-S Horizons. I've seen two issues and they look very good. Subscriptions are \$12.00 /12 issues, to T-S Horizons, 2002 Summit St., Portsmouth, OH 45662. Efforts like this deserve our support.

Mark Fisher

PROGRAMMING TINTS & HIPS

While I would be the last to point out another's error, Syntax committed a grievous sin in their May, '83 issue. In their version of a banner program, they named a variable LEN, identically spelled to the token LEN. This must not be done! It's very confusing to the reader (or de-bugger). In some computers such words are called prohibited words; and there's good reason for the prohibition.

If you're programming in German, remember to make your programs Benutzerfreundlichkeit.

SUBMISSIONS for this newsletter are eagerly solicited. The primary function of this newsletter is to serve as a method of communication between members: thus, when selecting material for each issue, first priority will be given to member's submissions. Publication of material does not transfer rights from the author; in fact, it may establish priority.

Submissions may be reviews, articles on applications, programming techniques, hardware, or anything else you can imagine. Pertinent articles from other publications will also be considered.

I would prefer material to be typed, single spaced, in 3 1/4" columns - but don't break your back: the Xerox dosen't really care.

NEWSLETTER TEAM

Ned Beeler
Carsie Bozeman
Mike L. Cohen
John Conger
Audry Curnutt
Bob Curnutt
Hank Dickson
Maddi Durholz
Mary Feldman
Mark Fisher

Sarah Fisher
Jules Gesang
Gyuri Grell
Mihaly Grell
Steve Johnson
Walt Sillars
J.M. Vallin
Stew Vance
Rick White

1984 MEETING and NEWSLETTER DEADLINE

	Meeting	Newsletter Submissi
January 1984	14th	
February 1984	11th	January 23, 1984
March 1984	10th	February 20, 1984
April 1984	14th	March 26, 1984
May 1984	12th	April 23, 1984

A MESSAGE FROM THE PRESIDENT

ON THE NEWSLETTER

I was quite impressed with the response we had and the number of people who turned out to help with the newsletter.

I saw a newsletter, that competes in quality and size with periodicals that have a substantial price tag.

I congratulate the newsletter team for a job well done.

ON THE MEETING

The meeting went as well as could be expected, considering our special guest was a little late.

Nevertheless we did get some good news from TIMEX, in that some long overdue hardware is on its way.

I do thank Jack Ewald for his time and consideration in visiting our group and answering our questions. And I thank you for making him feel welcomed.

The computer check on our names, that each of us performed seemed quite successful. So as a standard feature, the computer will be set up at each meeting, and members can be responsible for their records.

You can check your name as you sign in, and new members can be added to the list as they join.

THE NEXT MEETING

For the next meeting we hope to have:

1. Mark Fisher give us the low-down on exactly what happens inside the computer, when the switch is turned on.
2. More discussion on program writing. This will include flowcharting and other techniques.

If you have anything to add to the discussion, you will have an opportunity to share it.

3. We'll prop up the monitor again and try some more programming.
4. And we'll take some time to hear from you and what you are doing with your computers.
5. THE MODEM--yes lots more on the modem--lots more.

SEE YOU ALL NEXT MEETING

NED

A WORD OF THANKS

Our thanks to BILL ALBUGH for his unsolicited donation to the club treasury.

EXECUTIVE COMMITTEE

NEWSLETTER EXCHANGE COMMITTEE NOTES

The newsletter exchange committee has only been a two member effort and now will be integrated with the newsletter publishing committee. The newsletters we receive will be indexed and reviewed for articles of interest for reprinting in CATS-NL (with permission). The following organizations are currently exchanging newsletters with CATS:

TS USER
P.O. Box 155
Vicksburg, MI 49097

The Greater Cincinnati T/S U.G.
11 Funston Ln
Cincinnati, OH 45218

ZX U.G. of New York
Box 560, Wall Street
New York, NY 10005

TAS BAM U.G.
P.O. Box 644
Safety Harbor, FL 333572

Westinghouse ZX80/81 U.G.
Advanced Technology Laboratory
Box 1521
Baltimore, MD 21203

Triangle Sinclair U.G.
206 James St.
Carrboro, NC 27510

The Central Pennsylvania T/S U.G.
RD 1, Box 539
Centre Hall, PA 16828

New Jersey Sinclair Computer Club
10 Marion Ave.
Shorthills, NJ 07078

Sinclair/Timex U.G.
Boston Computer Society
Three Center Plaza
Boston, MA 02108

T-S Horizon (NL only)
2002 Summit St.
Portsmouth, OH 45662

I am happy to say that CATS-NL is, in my opinion, one of the top 10 newsletters in the U.S.. As nice as that sounds, it won't last much longer if the non-contributing members don't give our poor overworked editor and tiny staff a hand producing CATS-NL. Let's have MORE IN '84'...

-Steve Johnson

***** CLUB SURVEY RESULTS *****

So far, only 25 questionnaires have been returned. Not everyone responded to all the questions, so the totals do not add up:

Equipment: ZX-80, 1; ZX-81, 3; T/S 1000, 27; T/S 1500, 1; 16K RAM, 24; 64K RAM, 3; 2040 printers, 10; other type printer, 4; modem, 1; large keyboard, 10; memotech assembler, 1; VIC-20, 1.

Background: (beginner's) level 1, 1; level 2, 6; level 3, 6; level 4, 10; level 5, 2.

reason for joining: To learn BASIC, 13; to learn about machine code, 15; to meet others, 19; to learn about new equipment, 19; to learn about new programs, 17; to learn to use commercial programs, 12.

What kind of club is wanted: Biggest, 1; most helpful, 21; friendliest, 10; other, 0.

Meeting changes: Perfect, 5; More product demos., 4; More program demos., 6; More beginner info., 8; More advanced info., 3; Separate interest groups, 6; More time to talk to those around me, 4; More tutorials, 9; Other, 4.

Newsletter changes: Perfect, 4; More general information, 3; More program reviews, 3; more book reviews, 0; More hardware reviews, 3; More tutorials, 11; More news from other clubs, 1; More advertizing, 1; Program mods., 1.

HOW WILL YOU HELP: Do nothing, 5; Help on committees if called, 11; Write for newsletter, 4; Volunteer for committees, 2; Coordinate committees, 1; Nobody offered to start a committee.

SKILL LEVEL COMPARISON

	OWN	MEETING	NEWSLETTER
2	4		
3	2		
4	2	1	
5	1	3	3
6	2	2	2
7	1	2	1
8		2	3
9			2
10			

INTEREST IN SPECIFIC COMMITTEES: BASIC education, 6; Machine code education, 5; Newsletter, 2; Library, 2; Interclub communication, 3; Newsletter advertizing, 1; Publiwity, 2; Meeting planning, 2; Membership, 2; Contests, 1; Telecommunication, 1.

SOME NEW BOOKS OF INTEREST

The Complete HANDBOOK OF PERSONAL COMPUTER COMMUNICATIONS

Everything You Need To Go On Line With The World. Equipment, Software, The Source, CompuServe, Dow Jones, Dialog, BRS, Orbit, Information Bank and Newnet. Alfred Glossbrenner by St. Martin's Press, \$14.95

THE COMPUTER PHONE BOOK

A Complete Annotated Listing of Names and Numbers so you can go on line with over 400 Systems Across the Country Mike Cane by New American Library, \$9.95

WORD PROCESSING AND BEYOND

The Complete Introductory Computer Book Great Text With Tips on Purchasing Hardware and Software plus Resource Networks, Computer Supplies, Public Access Bulletin Boards Fred Stern by John Muir Publications, \$9.95.

Notes From The Librarian

Please note following, the phone number listed for Michael N. Cohen in the Program Library is wrong. The above program will list his phone number, and show you one way to make a table. Please excuse the error.

Michael L. Cohen

```

10 PRINT
20 PRINT TAB 1: " ";
TAB 10: " ";
30 PRINT TAB 1: "301-262-4642";
TAB 10: "301-262-4642";
40 PRINT TAB 1: " ";
TAB 10: " ";
50 GOTO 10

```

301-262-4642

301-262-4642

301-262-4642

301-262-4642

The GEMINI 10X Printer and MEMOTEXT Word Processing:

At recently advertised prices of \$269. and \$275., the Star Gemini 10X Printer offers everything that Prowriter and Epson 80 do at \$100. and \$200. (respectively) less.

It can print compressed type of 17 characters per inch, which you are reading, plus Elite of 12 per inch, plus Pica at 10 per inch, plus the **double-wide**, and also *Italics* which Prowriter cannot do. And even six type sizes on one line.

It can print symbols and punctuation that are not on the TS keyboard: & % ! @ ' # and many other symbols such as: and special letters used in various languages, like German: ö, and Greek: φ. It can **emphasize** and also do a **double-strike**.

For clarity's sake, it can back-space and place a / over an O or 0 and make a clear zero: Ø or 0.

Along with the printer, which seems to do everything advertised, I also got the MEMOTEXT word processor. While the documentation does leave something to be desired, I was able to concoct a reasonably decent business letter the first day and a much better one the second day.

With Mark Fisher's help, I learned to make the line justification process work when I inserted non-standard punctuation. It was in the instructions all the time, but I missed them the first time around. I have seen much worse documentation, though.

My impression after a month's learning experience is that the MEMOTEXT and GEMINI 10X combination is pretty terrific. It is very useful for small business as well as personal writing and computing. And I have a new respect for the TS membrane keyboard. I find I can type quite fast (MEMOTEXT is as fast as anyone can type) and corrections are so easy, I don't worry about mistakes. Now, if I could only spell!

MEMOTEXT provides easy editing of text, inserting new material, correcting mistakes, and deleting characters or lines. Whole paragraphs or chapters may be moved as a block to new locations. Text can be searched rapidly by character strings for editing or updating.

Flexible controls for formatting of letters, reports and forms is provided. An extensive list of commands gives pretty complete control of both the word processor and the printer, which incidentally comes with a 282 page manual!

An important feature for my business is the Data Management Program that is integrated into MEMOTEXT. It really is two programs in one. You can set up an extensive list of names, addresses, phone numbers, etc. - six lines of 32 characters each - in which I cram substantial info on subcontractors. I use the data files to make a phone list including key names as well as to address letters and envelopes, specially useful for form letters. I run off twenty notices to subs., with envelopes, at the rate of one a minute from a format in memory and on tape.

My only other word processing experience has been on the TRS 80 III, writing the VU-CALC Handbook with Scripsit. I truly believe my equipment is about equal in output and ease of operation. Considering that my investment is 10% that of my TRS friend's, I think that says a lot for the TS 1000 and my low cost but full sized printer. I now really do expect to finish rewriting the VU-CALC Handbook on my own equipment very soon. As a final word, my advice for those intending to get into word processing with a full sized printer, buy from the lowest priced source. Ignore stores that sell at \$30. to \$50. more on the promise to give instruction and "support". It just is not there.

Your best bet to get started, if you need help, is the Users Group. With people like Mark, or even beginners like me, available to demonstrate or advise by phone, you can get going with a minimum of cost and frustration and an optimum level of productivity and satisfaction. I did.

John Conger, 773 8384 or 654 5751

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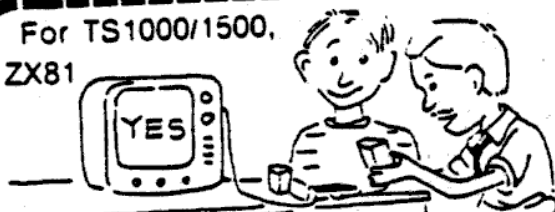


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LINE RENUMBERING

This month, I'll apply the knowledge of a program's structure [Nov. newsletter] to a task that is often desired when writing your own programs.

One of the hallmarks of BASIC (as opposed to Pascal or COBOL) is its use of line numbers. The computer uses them to find the correct spot in the program to jump to. Program lines are maintained in line number order by the computer. When you finish writing a line, the computer adds the binary equivalent of each constant, determines the correct position in the program file, makes the right amount of extra room, and moves it from the workspace to its new home. Line numbers need not be consecutive (1,2,3,4); but they must be in order (1,3,20,9000). Usually line numbers are increased by 10 for each line. This allows easy insertion of extra lines, simply by assigning the new line a number between the two existing lines.

What if you numbered your program consecutively, as Don Mayes did in Stargazing With Your T/S? [Dec. newsletter] The program will run fine, but what if you wanted to add a line between 32 and 33? No, the Timex won't accept 32.5. You would have to start at line 93; EDIT it, change its number to something larger, re-enter it, and repeat the process all the way back to line 33! All GOTOs and GOSUBs would also have to be changed. This same situation can occur during development of a new program, even if you originally started with lines on even tens - it's easy to have to add more than nine lines between any two, as you are working out the bugs.

CLARIFYING THE TASK

There is a solution - a RENUMBER utility. You can't just POKE new numbers in at random, though. You need to take advantage of the regularities in the program file to find the right places to POKE the new numbers. What do we know about line structure?

- 1) The program file always starts at 16509.
- 2) The first two bytes of each line hold the line number - that's where we'll have to do our POKEing.
- 3) The next two bytes hold the line length (not including the first 4 bytes) - we'll use these to get to the next line.

ON TO PSEUDO-CODE

Here's the plan. X is set at 16509. The contents of address X and X+1 are combined to check the current line number - with a STOP if the first line of the RENUMBER routine is reached (you can't use this routine to renumber itself!). The new number (N), is POKED into X and X+1, then incremented as desired. X is moved to the next line - line length +4 (for the header). And back around. You'll still have to edit the lines that contain

GOTOs and GOSUBs, but there aren't as many of them.

ON TO BASIC

```
9990~LET X=16509
9991 LET N=10
9992 IF PEEK X*256+PEEK (X+1)>=9
000 THEN STOP
9993 POKE X,INT (N/256)
9994 POKE X+1,N-256*INT (N/256)
9995 LET N=N+10
9996 LET X=X+4+PEEK (X+2)+256*PE
E (X+3)
9997 GOTO 9992
```

AND BEYOND

It's possible to include the GOTOs and GOSUBs as well, but it requires a lot of programming. Here's what has to be done. 1) The program file must be scanned, and a table built up, of the locations of GOTOs and GOSUBs, along with the line numbers they refer to.

2) A second pass through the program is made, the old numbers are checked against the numbers in the table: if they match, the new number is entered in its place: and the line numbers are changed.

3) The program file is scanned a third time, and each GOTO and GOSUB is given its new number reference.

THE PERILS OF PROGRAM DEVELOPMENT

I have finished the first section of this expanded program. In that process, I thought of some potential bugs. To wit; computed GOTOs (GOTO 10*X) would not be correctly modified. Computed GOTOs are not used very often, and I wasn't worried about leaving that out. The binary representation would also have to be changed; again, not a real problem, just another subroutine. A bigger problem is that the size of the program varies with the number of digits in the line number. If the original read GOTO 20, and the revised version had to read GOTO 300, the program file would have to be lengthened by one byte. I can't think of any way around that one in BASIC; and that's the end of the project.

Mark Fisher

As Creative Computing says, "the reason we don't have an errata column is because we don't make mistakes." Boggler, in the Dec. issue, contains some graphics DATA statements that were very hard to interpret. They weren't wrong, but they could have been clearer.

To get line 920, TYPe: (underline = GRAPHICS SHIFT,b=space)

```
9020 LET Q$="bbbbbbbbbbbbbbbbbb
bbbb,bbbbbbbbBOGGLERbbbbbb,b,bb
bbbbbbbbbbbbbbbbbbbbbb,bbbbbb66bbb
66bbb66bbbbbb,b,bbb8bTYb8bTYb8bTY
b5bbb,bbb8bYTb8bYTb8bYTb5bbb,"
```



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SPECIAL INTEREST SUBGROUPS FORMING

CATS users' group is beginning to show real potential as an organization with a purpose and the ingredients for achieving that purpose. However, there is still a need to address the specific interests of the membership.

It will be impossible to meet all of these needs at the monthly meetings, so it is time to organize subgroups for special interest topics. These "self-forming" subgroups should meet as their members see fit and work on projects of their own choosing. These members can then give an "experts panel" presentation at one of the monthly meetings.

Most of us lack enough specific knowledge to be a "solo-success" at the projects that really interest us. So, let's get our heads together at some "RAM-sessions" and have some fun learning from each other.

To aid our members in identifying other members with similar interests, we will try to collect data on these interests through the following questions:

1. I am interested in application for ____.
 - A. Home use (general)
 - B. Business use (general)
 - C. Modem communications
 - D. Ham communications
 - E. Controlling appliances
 - F. Robotics development
 - G. Astronomy/physics
 - H. Entertainment/games
 - I. Educational use
2. I would like to be able to ____.
 - J. Use commercial or public software
 - K. Program in BASIC
 - L. Use advanced BASIC techniques
 - M. Program in machine code
 - N. Program in Forth, etc.

Member # _____

1. _____

2. _____

Please direct suggestions to Steve Johnson at the next meeting or leave filled in replies at the sign in table.

CALCULATING BOND YIELDS

One of the pleasures of hacking at a T/S 1000 is the luxury of saving a lot of keystrokes on your calculator. I recently wrote this to examint the current interest yield of a bond or other interest-bearing investment which can be purchased at margin. A 16% cupon bond can yield a net return of 19.05% return at the right price and bought at margin interest paid.

The variable NETR of the program is the return after deducting margin interest. Bonds can be bought for 30% margin but I prefer 35% for saftey. Current margin interest is around 12.75%. (You can change margin and margin interest by making changes in lines 4 and 5.)

You can do your own income tax calculations after this. A subroutine can calculate the after-tax net.

A listing format permits comparisons between investments under consideration.

Please don't complain of making 19% on 16% investment. This is leverage. Interest is paid on face value, and you pay interest on the amount you borrowed.

Stew Vance

BOND YIELD AT MARGIN.35 INT.1275

ENTER NAME, COUPON, PRICE.

BOND	COUPON	PRICE	PERCENT RET	NETR
INTH000	16	100	47.18	20.5
MW.C000	16	107	40.70	19.00
CRK1000	16.500	108.25	45.10	20.00
COCL1000	16	100.5	41.70	19.00

1 PRINT "BOND YIELD AT MARGIN
35 INT.1275"

```

20 PRINT
30 REM BY STEW VANCE.
40 LET MIR=.1275
50 LET M=.35
60 GOSUB 100
70 PRINT "ENTER NAME, COUPON,"
80 PRINT
90 PRINT
100 PRINT TAB 22;"PERCENT"
110 PRINT AT 5,0;"BOND";TAB 7;"COUPON";TAB 14;"PRICE";TAB 21;"RET";TAB 27;"NETR"
120 INPUT AS
130 PRINT AT N,0;AS;
140 GOSUB 120
150 INPUT COUPON
160 PRINT TAB 7;COUPON;
170 INPUT PRICE
180 LET BAL=PRICE*(1-M)
190 PRINT TAB 14;PRICE;
200 GOSUB 200
210 LET RET=(COUPON)/(PRICE*M)
220 LET RET=RET*100
230 PRINT TAB 21;INT (RET*100+.5)/100
240 PRINT TAB 27;NETR
250 PRINT AT 20,0;"ENTER NEXT BOND"
260 GOTO 12
270 LET N=7
280 RETURN
290 LET N=N+1
300 RETURN
310 LET NETR=((COUPON-(BAL*MIR))/(PRICE*M))+100
320 LET NETR=INT (NETR*100+.5)/100
330 RETURN
340 RETURN

```

2-Bit Software

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Vidiom

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PROGRAM LAYOUT

Program layout is a very important consideration, now that the TS2068 is here with it's MERGE feature.

Listed below is the standard program frame I use. This system allows me to MERGE specific subroutines, with out the fear of overwriting important program lines.

You will notice that the first 1000 lines are empty. In this area, the most frequented sub-routines are stored.

Lines 1000 thru 1499 are used for the Menu or Body of the program. And lines to 5500 will be used for the body of the program

The lines at 9000 or more are used to store routines seldom accessed, such as initialization

Using this system, it will be practicable to have a tape with many different routines, which can be installed into your program at the flick of a switch.

Imagine, assembling a program from a library of ready made routines, with only a half a dozen written lines.

```

1 REM THIS AREA IS USED TO
2 REM STORE FREQUENTLY USED
3 REM ROUTINES
4 REM
5 REM MERGE AREA
10 REM
100 REM
500 REM
1000 REM *****
1001 REM * MENU *
1002 REM *****
1100 REM WRITE YOUR MENU IN THIS
1200 REM AREA
1300 REM
1400 REM
1410 IF LEN J$>1 THEN GO TO 1000
1420 IF CODE J$<49 OR CODE J$>56
    THEN GO TO 1000
1450 GO SUB VAL J$*500+1000
1500 REM *****
1501 REM * ITEM NO. 1 *
1502 REM *****
1503 REM
2000 REM *****
2001 REM * ITEM NO. 2 *
2002 REM *****
2003 REM
2500 REM *****
2501 REM * ITEM NO. 3 *
2502 REM *****
2503 REM
3000 REM *****
3001 REM * ITEM NO. 4 *
3002 REM *****
3003 REM
3500 REM *****
3501 REM * ITEM NO. 5 *
3502 REM *****
3503 REM
4000 REM *****
4001 REM * ITEM NO. 6 *
4002 REM *****

```

```

4003 REM
4500 REM *****
4501 REM * ITEM NO. 7 *
4502 REM *****
4503 REM
5000 REM *****
5001 REM * ITEM NO. 8 *
5002 REM *****
5003 REM
5004 REM
5050 SAVE "PROGRAM" LINE 1000
5499 REM
6000 REM MERGE AREA
6001 REM
6002 REM MERGE AREA
7000 REM MERGE AREA
7001 REM
7002 REM MERGE AREA
8000 REM
8006 REM
8007 REM
8008 REM
8009 REM
9000 REM INITIALIZATION
9001 REM
9002 REM THIS AREA IS USED TO
9003 REM INITIALIZE YOUR PROGRAM
9004 REM I.E. SET YOUR VARIABLES
9006 REM AS DONE BELOW
9007 REM
9012 DIM A$(X,12): PRINT "A$ = O
FFICE PHONE"
9014 DIM D$(X,5): PRINT "D$ = DA
TE"
9016 DIM M$(X,4): PRINT "M$ = ME
MBERSHIP #"
9018 DIM Q$(X,1): PRINT "Q$ = PA
YMENT STATUS"
9020 DIM O$(X,15): PRINT "O$ = O
CCUPATION"
9022 DIM E$(X,6): PRINT "E$ = EO
UIPMENT"
9024 DIM I$(X,6): PRINT "I$ = IN
TERESTS"
9025 REM
9030 REM
9050 REM "CONSISTANCY IS A MOST
9060 REM IMPORTANT CRITERIA"
9070 REM

```

AN IMPROVED "LIST" FUNCTION

BY RICK WHITE

IF YOU DON'T HAVE A PRINTER, THEN TRYING TO REVIEW OR MODIFY A BASIC PROGRAM CAN BE RATHER CUMBERSOME, ESPECIALLY IF THE LENGTH OF THE PROGRAM IS MORE THAN A FEW SCREEN-FULL'S. IF YOU DO HAVE A PRINTER, THEN OF COURSE YOU MAY SIMPLY "LLIST" THE WHOLE PROGRAM IN ONE SHOT, BUT AFTER A FEW CHANGES, YOU'RE READY FOR A NEW "LLIST" AND THE PAPER CAN GO QUICKLY. WHEN USING THE "LIST" FUNCTION, AFTER THE FIRST SCREEN-FULL, YOU MUST CHECK FOR THE LAST LINE NUMBER PRINTED, THEN USE "LIST-LINE NUMBER". UNFORTUNATELY, USING "CONT" KEEPS GIVING YOU THE SAME DISPLAY. YOU FIND YOUR FINGERS SEARCHING ALL OVER THE KEYBOARD FOR THE CORRECT NUMBER KEYS, AND EACH TIME THE NUMBERS ARE DIFFERENT. IF YOU WANT TO QUICKLY SEARCH FOR A SPECIFIC ROUTINE, THIS IS A LITTLE ANNOYING.

continued on p.10

continued from p.9

THIS IMPROVED "LIST" FUNCTION WILL ALLOW YOU TO USE "CONT" TO VIEW EACH PROGRAM SEGMENT ON THE SCREEN IN PROPER SEQUENCE, LEAVING NO LINES OMITTED. IT WILL AUTOMATICALLY BEGIN THE NEXT DISPLAY WITH THE NEXT LINE NUMBER, UNLESS THE LAST LINE OF THE PREVIOUS DISPLAY WAS NOT COMPLETELY PRINTED. IF THIS IS THE CASE, THEN THE PREVIOUS LAST-LINE DISPLAYED BECOMES THE NEXT FIRST-LINE DISPLAYED. THE ONLY PROBLEM OCCURS WHEN A BASIC LINE TAKES MORE THAN ONE SCREEN-FULL TO DISPLAY, BUT THIS USUALLY OCCURS AT MOST ONE TIME IN A PROGRAM, IN A "REM" AT THE BEGINNING OF THE PROGRAM. WHEN THIS HAPPENS, YOU MUST SPECIFY THE NEXT LINE NUMBER, OTHERWISE, YOU MAY ALTERNATELY HIT "CONT" AND "ENTER" AND SPEEDILY SCAN FOR WHAT YOU'RE LOOKING FOR.

THE PROGRAM TAKES 28 BYTES OF MACHINE CODE, AND CALLS SOME OF THE SUBROUTINES IN THE ROM. THE LABELS FOR THE ROM ROUTINES ARE THOSE USED IN LOGAN + 0'HARA'S ROM DISASSEMBLY BOOK. THE INVERSE LABELS ARE MY OWN. THIS VERSION OF MACHINE CODE IS WRITTEN FOR LOCATION IN THE LAST 28 BYTES OF 16K RAM. IT MAY BE LOCATED TO OTHER ADDRESSES IF YOU PREFER.

ASSEMBLY	HEX
-----	---
START LD HL,LINE	210000
LD A,H	7C
AND 43F	E63F
LD H,A	67
LD (E-PPC),HL	220A40
CALL LINE-ADDR	CDD809
LD E,+00	1E00
NEXT LD B,(HL)	46
INC HL	23
LD C,(HL)	4E
DEC HL	2B
LD (START+1),BC	ED43E57F
CALL OUT-LINE	CD4507
JR NEXT	18F3

BY PLACING THE ROUTINE ABOVE RAMTOP, YOU MAY ENTER THE MACHINE CODE ONCE, THEN IT WILL BE UNDISTURBED BY "NEW" OR "LOAD".

FIRST RESERVE SPACE ABOVE RAMTOP BY RUNNING THIS SHORT PROGRAM:

```
1 POKE 16388,228
2 POKE 16389,127
3 NEW
```

THE ABOVE LINES MAY BE JUST AS EASILY ENTERED IN IMMEDIATE MODE. NOW, STORE THE MACHINE CODE IN THE PROPER LOCATION BY RUNNING THIS SHORT PROGRAM. YOU MAY WANT TO SAVE THIS ROUTINE BEFORE RUNNING IT.

```
4 LET A$="2100007CE63F67220A"
5 LET A$=A$+"40CDD8091E0046"
6 LET A$=A$+"234E2BED43E5"
7 LET A$=A$+"7F"
8 LET A$=A$+"CD450718F3"
9 FOR I=0 TO 27
10 POKE 32740+I,16*CODE A$(I)
11 LET A$=A$(3 TO )
12 NEXT I
13 NEW
```

AFTER YOU RUN THE ABOVE PROGRAM, THE ROUTINE IS IN PLACE, BUT NOT QUITE READY TO USE. AT THIS POINT, YOU MAY LOAD ANOTHER PROGRAM. THEN, TO USE THE NEW ROUTINE, ADD THESE LINES TO YOUR BASIC PROGRAM:

```
9990 STOP
9991 POKE 32741,0
9992 POKE 32742,0
9993 RAND USR 32740
```

NOW, USE "GOTO 9991" IN IMMEDIATE MODE TO START THE LISTING FROM THE BEGINNING OF THE PROGRAM. YOU MIGHT INSTEAD ENTER "LET L=9991" ONCE THEN USE "GOTO L" EACH TIME YOU WISH TO CALL THE LIST ROUTINE. USE "CONT" FOR SUCCESSIVE DISPLAYS.

IF YOU PREFER, YOU MAY START THE LISTING FROM THE LINE OF YOUR CHOICE BY INSTEAD USING THESE LINES OF BASIC:

```
9994 STOP
9995 INPUT L
9996 POKE 32741,L-256*INT(L/256)
9997 POKE 32742,INT(L/256)
9998 LET L=9995
9999 RAND USR 32740
```

IN THIS CASE, USE "GOTO 9995" THE FIRST TIME, THEN "GOTO L" THEREAFTER. THE USE OF "STOP" IN THE ROUTINES ABOVE MAY BE NECESSARY TO PREVENT A NORMAL EXECUTION OF YOUR PROGRAM FROM IMMEDIATELY LOSING ITS OUTPUT DISPLAY BY GOING INTO THE NEW LIST ROUTINE.

THE ABOVE VERSION IS FOR 16K. TO USE THIS ROUTINE WITH 2K, THE FOLLOWING LINES IN THE PROCEDURE ABOVE SHOULD BE ALTERED:

```
2 POKE 16389,71
7 LET A$=A$+"47"
10 POKE 18404+I,16*CODE A$(I)
11 LET A$=A$(2)-475
9991 POKE 18405,0
9992 POKE 18406,0
9993 RAND USR 18404
9996 POKE 18405,L-256*INT(L/256)
9997 POKE 18406,INT(L/256)
9999 RAND USR 18404
```

HAPPY LISTING.....DE F&CT

Some of the best things in life are free! With my T/S1000 and modem, local computer bulletin board systems are just that-free!! As of this time I've accessed 5 boards in the Greater Baltimore local calling area without accruing any telephone charges. Most boards emphasize either a flexible message posting service or upload/download of public domain software (usually on an "exchange" basis). Some are operated by computer stores, in a non-commercial manner, during non-store hours while others are managed system operators (SYSOP's) from their homes and are "up" 24 hours daily.

Locating a phone number for just one local bulletin board always leads to others through message system announcements (or, ask me). No matter what type of host computer the SYSOP uses (TRS-80, Apple etc.) all systems are accessible from any computer, including the T/S1000 with a modem and terminal software like Byte-Back's MD-2. Simply load the software, dial the number, and at the computer tone flip on the modem, hang up, hit the Enter key and presto- user-friendly prompts roll across the screen. Type responses to a question or two and logon to a menu and instructions for use occurs.

From this point, depending on the board offerings, programs can be downloaded for adaptation, games played, software reviews, jokes, news, sales & want ads read, topics for discussion commented upon, and messages sent or scanned. Figure 1 is an example of a message to me from the SYSOP of the Italian Connection Bulletin Board in Pikesville (486-7633). A private message (E-Mail) is usually available, and if the SYSOP is home, a one-to-one CHAT is great fun.

Until a microdrive is available for the Timex, we can't easily use one for a full-fledged bulletin board system, but perhaps with Timex's to-be-released autoanswer modem we'll be able to at least "talk" to other Timex communicators.

Also, utilizing another "smart" feature of Byte-Back's MD-2 modem & software, I've downloaded material from CompuServe into my T/S1000 with 16k of memory; then I saved it on cassette tape. Reloading has been totally reliable and a result is shown as Figure 2. Notice that each screen is saved as a BASIC program REM statement, with not too unsightly graphic block characters. Fifteen screens at a time may be saved perman-

ently onto cassette tape in this fashion (or 60 with 64K of memory). Since the Byte-Back Co. may be able to adapt its hardware and software to the T/S2068, its peripherals and more standard BASIC, I'm looking forward to a future of downloading more usable software from both CompuServe and the local bulletin boards.

Figure 1.

```
MESSAGE # 1510
TO: MADDI DURHOLZ

FROM: CATALDO

DATE TIME: TUESDAY, DECEMBER
R 13, 1983 AT 22:14
MAIL TYPE: RESPONSE TO YOUR
MAIL
```

```
WELL, IT'S A GREAT IDEA...AND TH
AT'S THE PURPOSE OF THE
DISCUSSION SECTIONS IN THE OPEN
AND SOAP BOX PART OF THE
BOARD. SO, WHY NOT START YOUR C
OMMENTS AS A DISCUSSION?
THANKS FOR CALLING.
```

Figure 2.

```
1 REM
2
COMPUSERVE PAGE IDS-410

* TYPES OF MUTUAL FUNDS *

1 INTRODUCTION
2 BOND FUNDS
3 INCOME EQUITY FUNDS
4 GROWTH EQUITY FUNDS
5 MONEY MARKET FUNDS

LAST MENU PAGE. KEY DIGIT
OR M FOR PREVIOUS MENU.

1 2 REM
COMPUSERVE PAGE IDS-423

INTRODUCTION
```

PROGRAM MERGING FOR FREE

Carsie Bozeman

There are numerous advertisements for programs and devices to merge programs in the T/S and even tho I, like Bernie, hate to pass up a bargain, I hate even more paying someone else to do something I can just as well do myself.

After weeks of moving code back and forth I understood why I got such interesting displays (poking into D-FILE) and why the system crashed on occasion (poking into VARS) but I could not come up with an idea of how to move them out of the way until Mark suggested REM statements.

Lines 9900 thru 9912 move the program already in the program file to another location much higher in memory and gives you the numbers you will need to protect it from the second LOAD and to move it back down when you are ready to merge the two.

If you don't have a printer, change the LPRINTs in 9910 and 9911 to PRINTs and have a pencil handy to jot down the results because you will need to lower RAMTOP to the values given for 16388 & 16389, insert the value of "A" in line 7117 of the MERGE routine and Bytes will come in handy, even invaluable if you want to avoid a crash. Here is the step by step procedure;

1. Enter lines 9900 thru 9912 exactly as they appear.
2. Enter GOTO 9900.
3. POKE 16388,(the value given).
4. POKE 16389,(the value given).
5. Press NEW then ENTER.
6. LOAD "the new program".
7. Enter lines 7110 thru 7123.
8. Delete all spaces and characters inside the parenthesis following the = sign in 7112 and replace with the line no. of your first REM statement (it should follow line 7123).
9. Insert the value of "A" in line 7117 after removing the parenthesis and all spaces and characters inside.

10. Enter PRINT PEEK 16396*256+PEEK 16397-16509 (note the result).

Now you enter enough REM statements to reserve the space the first program will occupy when it is peeked back down. This will correspond to the value given for Bytes in step 2.

You can make a REM statement as long as you want but remember that the screen will hold only 704 characters so in order not to overload my ability to keep track I use a 320 byte line. That comes out as 2 bytes for the line no., 2 bytes for the line length, 1 byte for the REM character, 1 byte for the end of line (118) character and 314 dots, Xs or whatever.

Now you can use the EDIT and DELETE functions to recreate this line to your heart's content or at least get an integer number of the lines to match the bytes of the first program plus one more line to pick up the remainder. In other words, if your first program occupies 3200 bytes then you need 10 lines of 320 bytes. But if it is 3306 bytes long then you need 10 lines of 320 bytes plus an eleventh with 100 characters.

Liberal use of the 10thinstruction is recommended to make sure you have the exact no. of bytes needed and not one more or less. When the numbers come up right, enter GOTO 7110 and cross everything available.

```
7110 REM "MERGE"
7111 LET X=16508
7112 IF PEEK (X+1)*256+PEEK (X+2)
)= (LINE NUMBER OF FIRST REM
STATEMENT) THEN GOTO 7118
7113 LET X=X+1
7114 IF PEEK X=118 THEN GOTO 711
2
7115 GOTO 7113
7116 LPRINT "START ADDRESS=" X+1
7117 LET OLD=(A FROM RELOCATE +-
ROUTINE)
7118 LET NPM=X+1
7119 POKE NPM,PEEK OLD
7120 LET OLD=OLD+1
7121 IF OLD=32001 THEN STOP
7122 LET NPM=NPM+1
7123 GOTO 7119
```

```

9900 REM "RELOCATE"
9901 LET DF=PEEK 16396+256*PEEK
16397
9902 LET B=DF-1
9903 LET A=32000
9904 POKE A,PEEK B
9905 REM LPRINT A,B
9906 LET B=B-1
9907 IF B=16508 THEN GOTO 9910
9908 LET A=A-1
9909 GOTO 9904
9910 LPRINT "A=";A,"BYTES=";DF-1
9909
9911 LPRINT "16388=";(A-256*INT
(A/256))-1,"16389=";INT (A/256)
9912 STOP

```

B-17 REUNION

THE "LITTLE COMPUTER THAT COULD" AND A DATA BASE PROGRAM BRING WWII VETS TOGETHER WITH NEW TIES.

(As told by James Roberts in Family Computing, January 1984).

The Boeing B-17 heavy bomber designed in 1934 and accepted by the Army Air Corps in 1940, was the world's most formidable long-range bomber of the World War II era.

Although 12,000 B-17s were built and flown during World War II in all theatres of action, only a few remain today. The Confederate Air Force (C.A.F.), of which James Roberts is a member, owns two of these restored aircraft. Last summer the C.A.F. sponsored a 26 week national tour with one of the B-17 Texas Raiders' airplanes.

When Cincinnati, Ohio, where Roberts lives, was chosen as a tour stop, it was felt that a reunion of local former B-17 combat aircrewmembers would be an event with lasting memories.

In looking for at least 10 former crewmen to serve as honorary crew, Roberts was able to uncover 78 former B-17 combat aircrewmembers. And was able with the TIMEX TS1000 and the ORGANIZER to match up about 60 percent of these people as being in the same bombing group, bombing squadron, POW camp, or as having been shot down on the same mission. Roberts was getting calls from all types of people with information on the whereabouts of airmen in the Ohio area. He was using all manner of scrap paper to keep track of all the data. He discovered that he really could put his Timex to use. He had a TS1000 at work and at home. By using the Organizer he was able to cross reference all manner of data on these men. He was able to match and cross match men who had not seen each other since the mid-forties. He found men living in the same zip code area. Two crewmen lived down the street from each other. Two other men, friends for 15 years and co-workers in the same industry were not aware that each had been B-17 crewmen and POWs.

Roberts located so many men that he was able to pick, thanks to the Timex Computer, a full crew from pilot to tail gunner, in the actual position they had flown. And in the order in which they had responded to the request. The first-come, first-served method was acceptable to everyone concerned, and the printout from his TIMEX 2040 printer quickly produced the honorary crew.

Cincinnati's City Council members issued a proclamation naming July 9, 1983, as B-17 Day. The Mayor was present at formal ceremonies on the airfield to read the proclamation and honor those gallant flying men of World War II. Roberts said, "I am not a fulltime locator of anything, and I am sure that names and addresses could have been written with pencil and paper, but matching related data categories without a computer would have been too time-consuming for me to undertake in the short time frame we had for planning."

Roberts also commented, "It was a most memorable and successful event. And the hard work and research required was fun and easy with my Timex TS1000, Organizer and 2040 printer."

(James Roberts, a locksmith who lives in Fairfax, Ohio, is a colonel in the Confederate Air Force. He was a pilot over the Pacific in World War II. He contributes to a local Timex users' newsletter, and writes software reviews for FAMILY COMPUTING.)

Jules Gesang

UN-ADVERTISING DEPT

If anyone knows the whereabouts of the owner of FROG SOFTWARE, please contact Jules Gesang, at 301-922-0767, evenings. Their last known address was Box 95, Glenmont, NY



Prince George's County Library, Hyattsville, Md. held computer literacy classes for children at seven branches last summer, thanks to a computer systems analyst at the Department of Agriculture, who volunteered to design and conduct a program for children like these

LIBRARY JOURNAL/NOVEMBER 1, 1983

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T/S 1000 TO THE RESCUE IN THE LAB

Science is expanding its own frontier of the unknown in a spherical manner. This is causing the key to discovery, research funding, to be in short supply. Here is a perfect opportunity for the "toy computer" to show its capabilities.

For a modest cost of \$100, a Timex-1000 computer and a Byte-Back control module is providing computer control for a research study simulating the "self administration" of drugs to laboratory animals. This research is being performed at the Pharmacology Dept., Texas Tech University, Health Sciences Center, Lubbock, Texas (79430) by A.P. Leccese, W.H. Lyness and J.H. Pinch.

Laboratory rats in this study press a lever to receive a small, fixed volume dose of D-Amphetamine through an implanted catheter. The recorded pattern of self dosing is then simulated by a T/S-1000 program for future computer controlled experiments. This program can be easily altered to accommodate the dosing patterns of other species of laboratory animals.

Dr. A.P. Leccese can be contacted for a copy of this program at the above address.

-From "Trends in Pharmacological Sciences", Vol. 4, No. 11, Nov. 1983, pg. 446-7.

-Steve Johnson

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FREE CATALOG ON REQUEST

MOVING MARQUEE DISPLAY

```

10 REM MOVING MARQUEE DISPLAY
   BY J.M.VALLIN 3DEC83
20 GOTO 30
30 FOR M=A TO C
40 PRINT AT B+E,A;A$(M) ( TO M
   +D); AT B+E+A,E+E+D;B$(D-M); AT
   #D,A;A$(D-M) (B TO ); AT D+C-A;A
   #D-M; AT B+E+A,B;M$( TO E+E+B)
50 LET M$=M$(B TO )+M$(A)
60 NEXT M
70 GOTO B+C+E
80 DIM A$(3,32)
90 DIM B$(3,1)
100 LET A=1
110 LET B=20
120 LET C=3
130 LET D=4
140 LET E=0
150 PRINT AT 10,7;"ENTER A MESSAGE"
160 INPUT M$
170 IF LEN M$<30 THEN LET M$=M$
   " (LEN M$+A TO 31)
180 LET M$=M$+"
190 CLS
200 LET A$(A)="+ * * * * *
   * * * * *
210 LET A$(B)=A$(A) (30)+A$(A) (
   TO 29)
220 LET A$(3)=A$(B) (30)+A$(B) (
   TO 29)
230 CLS
240 LET B$(A)="+
250 LET B$(B)="+
260 LET B$(3)=B$(B)
270 FOR M=A TO 29
280 PRINT AT 10,M;A$(A,M)
290 NEXT M
300 PRINT AT 11,29;B$(B)
310 FOR M=A TO 29
320 PRINT AT 12,30-M;A$(3,31-M)
330 NEXT M
340 PRINT AT 11,A;B$(B)
350 FOR M=A TO 27
360 PRINT AT 11,M+A;M$(M)
370 NEXT M
380 GOTO 30

```

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Bladensburg, MD 20710

CATS is a non-profit special interest organization dedicated to serving the interests of those who own, use, or are interested in learning more about the Timex/Sinclair family of personal computers.

The official contact person for CATS is Jim Wallace: (301) 699-8712 (anytime).

Meetings are held on the second Saturday of each month at 2 P.M. in the large meeting room of the New Carrollton Branch Public Library.

Ham Radio Network Information

QZX Net...Wednesdays, 9p.m. local time; 14.345 MHz NV4F NCS
Eastern Regional Sinclair Net...Sundays, 1600 Z; 7.245 MHz
KQ2F NCS